

**EA10931F2401**

# AC/DC switching power transfer device

**Constant Voltage | max. 3.75A | max.90W | 24Vdc**
**AC plug: C14 | DC plug: Barrel Type 2,1x5,5x11mm, Inside +**


## Input Electrical Specification

### AC Input Voltage

Maximum Voltage	264 VAC
Normal Voltage	100 ~ 240 VAC
Minimum Voltage	90 VAC

### AC Input Frequency

Maximum Frequency	63 Hz
Normal Frequency	50 ~ 60 Hz
Minimum Frequency	47 Hz

### Input Current

1.5A (Max.) @ 100Vac/60Hz-240Vac/50Hz will Max. load.

### Efficiency

≥ 889% (Avg.) at 115Vac/60Hz & 230Vac/50Hz input voltage and 25%, 50%, 75% & 100% of Max. output current.  
 ≥ 79% at 115Vac/60Hz & 230Vac/50Hz input voltage and 10% of Max. output Current.

### No Load Power Consumption

No Load Watt < 0.15W at normal line input.

### Configuration

3-wire AC input (Line ,Neutral ,FG)

### Input Fuse

The hot line side of the input shall have a fuse, rating (T3.15A/250V)

### Inrush Current

≤ 60A at 110 Vac	At cold start, Max. load.
≤ 120A at Vac	At cold start, maximum load

### Line Regulation

This line regulation is less than ± 1%, 100Vac/60Hz-240Vac/50Hz, with Max. load

### Hold Up Time

≥ 10mSec., @ 100Vac/60Hz-240Vac/50Hz, with Max. load.

### Rise Time

≤ 50mSec.,@ 100Vac/60Hz-240Vac/50Hz, with Max. load. From 10% to 90% of output voltage.

### Turn-ON Time

The output voltage should rise to 90% of rated output voltage. in less than 3 SEC. 100Vac/60Hz-240Vac/50Hz, with Max. load.

## EA10931F2401

### Harmonic Standard and Power Factor

The adaptor complied with IEC61000-3-2 Class D harmonic standard while input power over than 75W. The PF shall  $> 0.95$  @ 100Vac input and  $> 0.9$  @ 240Vac input with Max. load.

## Output Requirements

### Output Voltage and Current

Output Voltage (VDC)	Current Min. (A)	Current Max (A)
+24V	0	3.75A

### Combine Regulation

Voltage (VDC)	Tolerance (%)	Regulation (V)
+24V	+5~-5	22.8V ~ 25.2V

### Dynamic Load Regulation

$\pm 5\%$  excursion for 50% - 100% or 100% - 50% load change of DC output at any frequency up to 1KHz(duty 50%)

### Ripple & Noise

The power supply shall not exceed the following limits on the indicated voltage for 60Hz or 50Hz ripple, Switching frequency ripple and noise and dynamic load variations measured with a 20MHz

Output	Ripple/Noise
+24V	1.5% max. of full load & 50% load current

Ripple / Noise: 60Hz ripple + switching ripple and noise

Ripple & Noise are measured at the end of output cable which are added a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor

### Over Voltage Protection

150% Max. of the rated output voltage. The adaptor shall have OVP with auto-recovery mode when output voltage reaches the trigger point of OVP.

### Short-Circuit Protection

The adapter can withstand continuous short at DC output and no damage. It will enter into Normal condition if the fault condition is removed. The short circuit impedance should be less than  $0.3R$ .

### Over Current Protection

110 ~ 150% of rated output current. The adapter can withstand continuous short at DC output and no damage. It will enter into normal condition if the fault condition is removed.

### Stability

2% Max. at constant load with constant input (after 30 minutes of operation).

### Drop-out (Power Line Disturbance)

Output voltage shall remain within the specified regulation range, through the absence of a line input during 1/2 cycle, at full load and normal AC line input.

## EA10931F2401

### Voltage Isolation

The DC ground will be isolated from the AC neutral and AC line.

### Reliability

#### MTBF (MIL-HDBK-217F)

The power supply shall be designed and produced to have a mean time between failures (MTBF) of 100,000 hours at 25° C

### Environment

#### Temperature

Operating	0° C to +40° C
Storage	-20° C to +85° C

#### Humidity

Operating	10 to 90%
Storage	5 to 90%

#### Altitude

From sea level to 5,000Meter ( operation ) and 5,000Meter ( non operation )

### Safety

#### Hi-Pot Test

AC 3000V 10mA 2 Sec. between primary and secondary circuit.  
AC 1800V 10mA 2 Sec. between L & N and FG.

#### Insulation Test

500Vdc 3sec. between primary and secondary circuit. IR should  $\geq 50M\Omega$

#### Leakage Current

$\leq 750\mu A$ , at 240 Vac/50 Hz

#### Safety

UL, CUL, TUV, CB, CE, FCC, BSMI, CCC

#### EMS

Items	Specification	Reference
ESD	Contact: $\pm 4KV$	IEC 61000-4-2
	Air: $\pm 8KV$	
RS	Frequency: 80~1000MHz Field Strength: 3V/M, 80% AM(1KHz)	IEC 61000-4-3
EFT	1.0 KV on input AC power ports.	IEC 61000-4-4
Surge	Line to Line: $\pm 1KV$ (peak)	IEC 61000-4-5
	Line to FG: $\pm 2KV$ (peak)	

# EA10931F2401

## EMI

<b>Comply with Standards</b>
CISPR32, EN55032 Class B FCC PART 15 Class B

## Mechanical Characteristics

### Physical Size

134.5mm (L) \* 58.8mm (W) \* 25.4mm (H)

### Enclosure material

94V-0 minimum

### Output Cable (Reference)

UL1185 #14

### Vibration Test

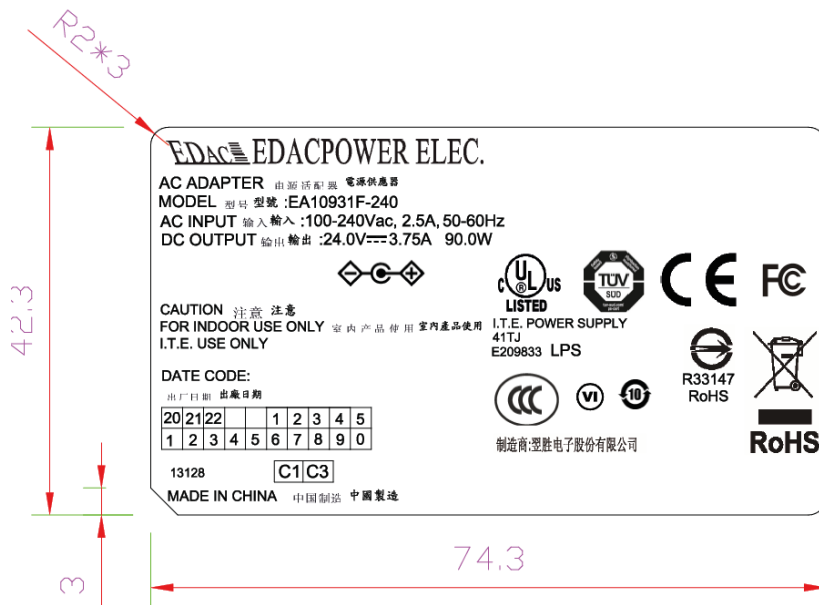
The vibration frequencies are set at 20Hz, with total amplitude of 1.5mm along the 3 directions namely X-Y-Z. The each direction should be vibrated for 60 minutes, after testing no abnormal electrical or mechanical should occur.

### Drop Test (Referencing to CSA C22.2 No.950/UL1950/UL1310/EN62368)

Products shall be dropped from a height of 1000 mm onto a horizontal surface consists of hardwood at 13mm thick, mounted on two layers of plywood each 19mm to 20mm thick, all supported on a concrete or equivalent non-resilient floor. Upon conclusion of test , the equipment don't need be operational , but need meet Hi-Pot specification requirement .

### Net Weight (Reference)

350g



EDAC P/N.: 3128  
 Background: Black color  
 Character: Silver color  
 Unit: mm

EA10931F2401

Mechanical Specification

